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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,757	08/14/2002	Douglas P. Boyd	125691	9669

23446 7590 02/24/2005

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EXAMINER

ROY, BAISAKHI

ART UNIT PAPER NUMBER

3737

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/064,757	BOYD ET AL. <span style="float: right;">am</span>	
	<b>Examiner</b>	<b>Art Unit</b>	
	Baisakhi Roy	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 and 23-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 23-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-21 and 23-35 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, 6, 8, 11-20, and 23-35 are rejected under 35 U.S.C. 102(b) as being anticipated by Toki et al. (5594772).

Regarding claims 1-3, 19, 20, 27-29, and 34 Toki et al. disclose a method for obtaining cine angiography images in a CT scanner by positioning a patient at a first position, scanning the patient during a first sweep with an energy beam beginning at first triggering sequence, stopping said scanning after said first sweep, moving patient to second position, scanning the patient in a second sweep at a second triggering sequence, and forming and displaying a series of motion images based on the first and second sweeps with said sets of image data providing cardiac information of the patient (col. 6 lines 63-67, col. 7 lines 1-26, col. 8 lines 22-33 lines 47-67, col. 9 lines 1-16, col. 11 lines 28-42, col. 12 lines 42-52 lines 64-67, col. 13 lines 1-63).

Regarding claims 5, 6, 8, 11, and 23-26, and 35, Toki et al. teach said triggering events to constitute an independently configurable percent completion of the cardiac

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wave and where said event occurs after skipping a few or at specific heartbeats (col. 14 lines 41-67, col. 15, col. 16 lines 1-22, figures 1, 5-7, 9, 12, 13, 15, 17, 18, 30-32, 34).

Regarding claims 12-18, Toki et al. teach a system for obtaining cine angiography images in a CT scanner with an electron beam sweeping a target ring to produce x-rays, a beam control system for controlling said electron beam to sweep said target ring, a movable patient positioner for automatically positioning a patient between the target ring and detector ring, multiple detector rings, ECG trigger, and a data acquisition system forming and displaying a series of motion images (col. 5 lines 22-67, col. 6 lines 1-54, col. 11 lines 1-10, col. 14 lines 47-67, col. 15 lines 13-59, col. 21 lines 27-43).

Regarding claims 30-32, the reference teaches injection of contrast media into the patient's vein (col. 16 lines 27-42 lines 61-67, col. 17 lines 39-40, col. 18 lines 16-43).

Regarding claim 33, the reference teaches the use of a manual trigger (col. 17 lines 5-23, col. 18 lines 16-34).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toki et al. in view of Heuscher et al. (6510337). Toki et al. teach said triggering

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sequence to occur at a predetermined time period of the cardiac cycle but do not explicitly teach said sequence to occur at 40% and 80% of the cardiac cycle. Heuscher et al. disclose a method of obtaining cine angiography images in a CT scanner with multiple triggering points or triggering sequences along the cardiac cycle and generating a scan at 40% (mid systole) completion of the cardiac cycle and 80% (mid-end diastole) completion of the cardiac cycle (fig. 2, col. 5 lines 10-15, col. 8 lines 1-21). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Heuscher et al. regarding the generation of triggering sequences at specific length or percentage of the cardiac cycle to modify the teaching by Toki et al. for the purpose of executing scans relative to the R-wave and obtain images at 40% and 80% completion of phases of the cardiac cycle.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toki et al. in view of Boyd et al. (4352021). Toki et al. teach the movement of the patient but do not explicitly teach said movement to be at a rate of 3 millimeters per second. Boyd et al. disclose a method of obtaining cine sequences depicting cardiac activity with movement of the patient from 3-6 millimeters (col. 6 lines 14-18) between scans. It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Boyd et al. to modify the teaching by Toki et al. for the purpose of moving the patient continuously during the scan at a rate of 3 millimeters per second.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO 892 for relevant references of interest. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

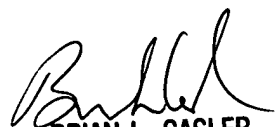
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*B.R.*

BR

  
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